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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,459	04/16/2004	Bradley C. Aldrich	MP1505 FHFGD 10368.0007-0	1488
68933	7590	04/27/2007	EXAMINER	
MARVELL-FHFGD c/o FINNEGAN, HENDERSON, FARABOW, GARNETT et. al. 901 NEW YORK AVENUE WASHINGTON, DC 20001-4413			MAIL, TAN V	
			ART UNIT	PAPER NUMBER
			2193	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/826,459

Applicant(s)

ALDRICH ET AL.

Examiner

Tan V. Mai

Art Unit

2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/30/04 & 12/4-5/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/16/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2193

1. Claims 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per dependent claim 18, "claim 14" should be –claim 17--. Similarly noted claims 19-20.

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-16 and 29-35 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims recite a method (claim 1-16) / an article comprising a storage medium for performing a mathematical function.

"[t]o satisfy section 101 requirements, the claim must be for a practical application of the Sec. 101 judicial exception, which can be identified in various ways:

- . The claimed invention "transforms" an article or physical object to a different state or thing.
- . The claimed invention otherwise produces a useful, concrete and tangible result,..."

See "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" OG Date: 22 November 2005.

Since there is no physical transform to establish a practical application, a useful, concrete and tangible result appears to be lacking. Therefore, claims 1-16 and 29-35 are directed to a non-statutory process.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2193

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2, 5-6, 9, 11 and 15 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Asai et al (Pat. No. 4,817,025).

As per independent claim 1, Asai et al teach, e.g., see Figs. 8-10, the claimed combined elements. Fig. 9 shows a first multiplication product of **first coefficient (A6)** and **first sample (D5)** and a second multiplication product of **second coefficient (A8)** and **second sample (D7)**. However, the **first coefficient (A6)** and **second coefficient (A6)** are equal (see col. 3, lines 23-25 & 49-50), the modified filter is shown in Fig. 10 for odd and even samples. Therefore, the first multiplication product (D5*A6 of Fig. 9 or M3*A6 of Fig. 10) and a second multiplication product (D7*A8 of Fig. 9 or M4*A8 of Fig. 10) read on the claimed invention.

As per dependent claim 2, Asai et al show the claimed feature.

As per dependent claim 5, Asai et al show the claimed feature. It is noted that Fig. 10 is in "odd" mode, then $A5 = A9$.

As per dependent claim 6, Asai et al show the claimed feature. It is noted that Fig. 9 is even delay elements (D1-D12), then $A6 = A8$.

As per dependent claim 9, Asai et al show the claimed feature.

Due to the similarity of claim 11 to claims 1, it is rejected under a similar rationale.

Due to the similarity of claim 15 to claims 9, it is rejected under a similar rationale.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 10, 12-14, 16-31 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asai et al (Pat. No. 4,817,025) in view of Deng et al (Applicants' admission Prior art).

Asai et al have been discussed in paragraph No. 4 above.

As per dependent claim 10, the claim details SIMD instruction feature. The feature is old and well-known the "packed data" device / method. For example, see Deng et al. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Deng et al "packed data" feature in Asai et al, thereby making the claimed invention, because the proposed device is a parallel multiplication/accumulation capable of performing products by SIMD instruction as claimed.

As per dependent claims 12 and 14, the claims detail the locations of data (samples and coefficients). The feature is old and well-known the "packed data" device / method. For example, see Deng et al. It would have been obvious to a person having

Art Unit: 2193

ordinary skill in the art at the time the invention was made to combine Deng et al "packed data" feature in Asai et al, thereby making the claimed invention, because the proposed device is a parallel multiplication/accumulation capable of performing products as claimed.

As per dependent claim 13, the detail feature is old and well known in the art.

Due to the similarity of claim 16 to claims 10, it is rejected under a similar rationale.

As per claims 17-28, due the claims recites apparatuses corresponding to the method claims 1-2, 5-6 and 9-16, they are rejected under a similar rationale. It is noted that the claims adds multiplexers features; however, the feature is old and well known in the art.

As per claims 29-31 and 35, due the claims recites an article comprising a storage medium corresponding to the method claims 1-2, 5-6 and 9-16, they are rejected under a similar rationale.

7. Claims 3-4, 7-8 and 32-34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cited references are art of interest.

Art Unit: 2193

9. The following is an examiner's statement of reasons for allowance: the recorded references do NOT teach or suggest the detail features in parallel multiplications in the sequential odd / even samples as recited in dependent claims 3-4, 7-8 and 32-34.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan V. Mai whose telephone number is (571) 272-3726. The examiner can normally be reached on Mon-Wed and Fri. from 9:30am to 2:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An, can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is:

Official (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.



Tan V. Mai
Primary Examiner